

ALTERNATIVES DEVELOPMENT GROUP (ADG)
SOUTHWEST FLORIDA ENVIRONMENTAL IMPACT STATEMENT
MEETING #5, June 18 - 19, 1998

MEETING NOTES: FINAL

The notes provided below document the main points and meeting progress that were offered during the meeting on June 18 through June 19. The notes highlight and summarize the key issues that were discussed at the ADG meeting. The following section provides an overall summary of the meeting, and the remaining sections summarize each of the agenda items as they occurred in the meeting. Selected attachments are provided in this document. Any comments on accuracy of these notes are welcome and will be reflected in a subsequent version of this meeting report. Note that copies of this document were provided electronically either through e-mail, facsimile, <http://www.saj.usace.army.mil/permit/projects.htm>, or <ftp://ftp.saj.usace.army.mil/pub/bbarron>. Attachments are included in the electronic version when reasonably possible. Otherwise, the full version with all attachments will be distributed at the next ADG meeting.

Meeting Overview

The Alternatives Development Group (ADG) met on June 18 through June 19, 1998, at The Conservancy auditorium located in Naples, Florida. All ADG members were represented at the meeting. The roster of attendees is presented in Attachment A. The objectives of this meeting were to (1) receive presentations that provided important data, information, and maps, (2) refine evaluation factors, and (3) evaluate hub alternatives. The evaluation of hub alternatives did not take place at the fifth meeting.

The meeting began the morning of June 18 with administrative announcements followed by the introduction of members/alternates, observers, and the facilitation team. Dale Brown and Tim Feather, lead facilitator and project manager for Planning and Management Consultants, Ltd., respectively, presented the agenda for the fifth meeting.

Several presentations of data, information, and maps were given for the benefit of the ADG. These presentations included (1) county existing and future land use, (2) current and historic flowways, (3) hydrology and soils, (4) hurricane preparedness, (5) wildlife habitat, and (6) wetlands locations within the study area. The presenters had to communicate to the ADG how this information could support the development of evaluation factors as well as differentiate among alternatives. Reference materials are presented in Attachment B.

The ADG divided into factor specialty groups to refine their evaluation factors. The facilitation team provided the factor specialty groups guidance in this refinement effort (i.e.,

worksheets). The goal of this activity was to establish a set of meaningful evaluation factors that could be accessible by the ADG within the prescribed timeframe. The results of the refinement activity are presented in Attachment C. One ADG member provided the factor specialty groups with suggestions to consider in the development of evaluation factors. These suggestions are presented in Attachment D. Given these evaluation factors, factor specialty groups provided their geographic information system (GIS) needs to help support the evaluation factors. These GIS needs by issue category are presented in Attachment E.

Administrative Activities

Dale Brown and Tim Feather opened the meeting with administrative activities. These activities included (1) administrative announcements, (2) overview of the fourth meeting, (3) agenda, and (4) review of motion concerning environmental justice.

Administrative Announcements

The fifth ADG meeting was brought to order on Thursday, June 18, 1998 at 9:10 a.m. Mr. Brown addressed administrative issues regarding facilities, lunch, and other logistical items. The group was reminded to check the sign-in sheet for attendance and correctness. Mr. Brown began the meeting by requesting introductions of members, alternates, observers, and the facilitation team members.

Fourth Meeting Overview

Tim Feather presented an overview of the fourth ADG meeting using presentation materials provided in Attachment F of the notes from the fourth meeting (which were handed out to the group). Mr. Feather presented the (1) activities, (2) accomplishments, and (3) next steps.

Draft meeting notes for the fourth meeting were distributed to the group. Final notes for the third meeting were also provided to the group. Comments on the draft notes for the fourth meeting were entertained by the facilitation team. It was noted that the members of the factor specialty groups of water quality and restoration/retrofit were incorrect as presented in Attachment B. Also, several members wanted clarification on the use of artesian wells in the notes. It was noted that potable artesian wells were experiencing problems due to a lowered water table whereas irrigation artesian wells are being plugged. It was also noted that some public agencies are not adequately funded to best manage public lands. Gary Beardsley added that he provided historic wetlands inventory data.

The method of distribution of the meeting notes will be the use of the Jacksonville District's ftp site (<ftp://ftp.saj.usace.army.mil/pub/bbarron>).

Agenda

The agenda for the fifth meeting was presented by Tim Feather. First, the ADG will address the motion to use environmental justice as an evaluation factor by which to discriminate among alternatives. Then, the ADG will proceed with presentations of data and information that were identified at the fourth meeting as necessary to aid the group in factor and alternatives development. Next, the factor specialty groups will complete another iteration of evaluation factor refinement. Lastly, the ADG will begin to apply these evaluation factors to the alternatives for the hub. Mr. Feather, to aid the ADG's understanding of the process, presented a three-dimensional cube that displayed how the alternatives by sub-area will be evaluated using the factors. He also stated that the group has made great progress but there is a lot of work to be accomplished in the next five meetings.

Environmental Justice Motion

Mr. Brown opened the floor to the ADG to discuss the motion of adding environmental justice as an evaluation factor. It was stated that environmental justice is presently not a problem in the study area but should be addressed within the context of an existing issue category. Several members question the addition of motions to add evaluation factors. Others stated that this issue was raised in previous meetings thus it is not a new item. The Florida Department of Environmental Protection (DEP) has documentation on how to address environmental justice in an Environmental Impact Statement (EIS). It was suggested that data exist (i.e., U.S. Census) that can be used in the measurement of environmental justice. The ADG agreed that environmental justice should be reviewed by the factor specialty group addressing the issue of property rights. The outcome of this review will be presented in a later section of the notes.

Presentations of Data and Information

At the fourth meeting, the ADG requested presentations on the following topical areas.

- current and historic flow maps (Chip Merriam)
- future flow maps (Chip Merriam)
- hydrology information (Chip Merriam)
- Estero Agency on Bay Management (ABM) map and report (Wayne)
- county land use and preserve maps (Paul O'Connor and Bill Mulhere)
- Lee County wetlands map (Paul O'Connor)

- hydric soils map and historic wetland inventory data bases (i.e., 1954 USFG) (Gary Beardsley)
- GAP and panther priority 1 and 2 maps (Brad Hartman)
- map of public and targeted lands (Tim Durham)
- hurricane preparedness (Wayne Daltry)

All data, information, and map references are presented in Attachment B. The presenters were asked to address three questions.

1. how does this information support the ADG's evaluation factors?
2. how can the information help differentiate between alternatives?
3. how and when can the information be brought to the ADG?

Tim Feather asked the ADG to keep these three items in mind when they refine their evaluation factors. Mr. Feather presented evaluation factor worksheets created from Attachment B of the notes from the fourth meeting. Given the information presented, these worksheets will aid the factor specialty groups in the refinement of evaluation factors. Each evaluation factor by issue category was presented in these worksheets. The motto of this refinement is Need to Know Versus Nice to Know. The factor specialty groups, after the requested presentations, refined the evaluation factors. The refinement of evaluation factors is presented in a later section of the notes. Dale Brown introduced the presenters to the ADG.

Collier County Land Use Maps

Bob Mulhere, Director of Collier County Planning, presented three maps to the ADG. These maps displayed the existing land use, future land use, and open spaces of Collier County. The open spaces map includes a number of land uses including preserves, proposed acquisition, lakes and waterways, golf courses, and Golden Gate Estates. Mr. Mulhere stated that this map could support the issue of property rights as well as the idea of connectivity of natural areas. These maps are referenced in Attachment B.

Mr. Mulhere stated that the existing land use map presented to the ADG is one of a series of seven maps. These maps will be very useful to the ADG in the development of alternatives. He offers his staff and resources to provide these maps to the ADG.

Mr. Mulhere presented the future land use map to the ADG. He stated that this map is dynamic. The map depicts broad land uses. He noted that there are some changes to the map anticipated in the near future.

One ADG member asked about what the County does when there is conflict with the land use plan. Mr. Mulhere stated that the County must first establish that it is an actual conflict. Then there is a mitigation process to follow as well as mediation with the Department of Community Affairs (DCA). Another member of the ADG asked whether or not the County has

offsite mitigation strategies. Mr. Mulhere stated that the County does have onsite but not offsite mitigation strategies.

Lee County Land Use Maps

Paul O'Connor, Director of the Lee County Planning Division, presented a number of maps and reference materials that could be used by the ADG for both the evaluation factor and alternatives development. The following is a list of these items.

- existing conservation lands: targeted and purchased
- wetlands maps
- plan development map
- existing land use map
- Lee County soils survey
- Lee County projects development approvals
- existing land use database
- copy of the Comprehensive Plan

A member asked Mr. O'Connor which map was considered the preferred alternative. Paul O'Connor stated that the future land use map was the County's preferred alternative. It was suggested that using GIS one could overlay the future land use map with the wetlands map and quickly determine the number of wetlands impacted by this alternative. Several ADG members stated that the existing land use maps as well as the future land use maps for both counties are alternatives that must be evaluated by the ADG.

Public and Targeted Lands

Tim Durham, Professional Engineer, presented maps that are provided in the public domain (i.e., panther habitat and wetlands). Mr. Durham stated to the ADG that his firm possesses many if not all the maps that will be displayed to the ADG by other presenters. Maps presented included public owned lands, acquired and targeted lands, panther habitat priority I and II, wetlands, and existing land uses. Mr. Durham stated that he did not create these maps but they exist and have been acquired by his firm.

John Hall, Corps Regulatory Division, stated that the Corps is limited in time and staff to produce the data and GIS layers to needed to evaluate alternatives. Mr. Hall asked the ADG if they would prefer that the Corps contract out the GIS work for quicker turn around time. Members agreed that the Corps should contract the GIS work.

Hydric Soils and Historic Wetlands Inventory

Gary Beardsley presented the soils surveys for both Lee and Collier Counties titled Soil Survey of Lee County, Florida and Soil Survey of Collier County. He presented two surveys for Collier County from different time periods: 1942 and 1998. The survey completed in 1942 was titled Soil Survey: Detailed Reconnaissance Collier County Florida. These surveys were prepared by the Natural Resources Conservation Service (NRCS). The 1942 soils survey provides vegetation associations while the 1998 survey does not. Botanists had input in the 1942 survey but did not in the 1998 survey. There are 42 soils units in Collier County of which 22 are hydric. Likewise, the Lee County soils survey does not provide vegetation associations. The Lee County soils survey is difficult to obtain. Mr. Beardsley also noted the historical wetland inventory for 1954. However, these are ordered and when obtained will be physically presented to the ADG at a future meeting.

One ADG member stated that it is important to understand the many different types of hydric soils before making any decision based on the overall category of hydric soils. It was stated that the Corps recognizes that the determination of soils is sometimes difficult from a soils survey, thus the Corps utilized the National Academy of Sciences and recognized State soils scientists in the determination of soils types.

Estero Bay Agency on Bay Management

Wayne Daltry, Executive Director of the Southwest Florida Regional Planning Council, presented a summary of the work completed or being completed by the Estero Bay Agency on Bay Management (ABM). ABM published a report titled State of the Bay that describes the historical development of the Estero Bay area. This report was provided to the ADG. The report addresses the impacts to water quality and flowways as a result of changes in the Bay area. It was stated that the Estero Bay area needs to address onsite and offsite mitigation strategies. Mr. Daltry also referenced the Arnold Commission report. However, there was no presentation regarding this report.

Also, a map, Composite Strategies Conservation Map, of the Estero Bay area that depicted the ABM's vision for the Bay area was presented to the ADG. The map was referred to as a wish list for the Bay area. The map identifies areas of conservation and preservation to be acquired that would result in improved water quality, hydrology, and restored flowways. The map is part of a draft report that is being authored by the ABM. It was noted by a member, that mining acres are not represented on this map. Mr. Daltry stated that this is a draft map and this oversight will be corrected. This map should be referenced when developing alternatives for the Bay area. Other documents to consider are the Charlotte Harbor National Estuary Program Area Studies and the South Florida Study written in 1973.

Hurricane Preparedness

Mr. Daltry also presented hurricane preparedness information to the ADG. Historically settlers built on the highlands and waterways were used for transportation. As the population grew, people built residential and commercial facilities at lower elevations. The hurricane on September 16, 1960 initiated the “real” need to address hurricane preparedness. Overall preparedness includes a system of shelters and evacuation plans. The study area has a shelter deficit having only half the shelters necessary to meet the residents’ needs. Compounding the problem are choke points that are locations on the evacuation route that impede quick evacuation. This type of information is provided in the Hurricane Preparedness / Evacuation Study. The evacuation problems of the study area are second only to those of New Orleans. As a side note, Everglades City is considered one of the most hurricane prepared cities in the world.

The map presented to the ADG depicts surge zones of hurricanes that fall within five categories. Category five being the most destructive. Categories four and five hurricanes extend further inland than do lesser categories of hurricanes. The map was developed from data representing 794 different storms and 150 different storm tracks. This information is provided in the Storm Surge Atlas: Lee and Collier Counties.

Shelters have food, nursing staff, and law enforcement present. A typical shelter is a public school building. The Hurricane Shelter Deficit Reduction Report suggested working with private entities (i.e., churches, commercial facilities, and breweries) to increase the number of available shelters. A refuge, unlike a shelter, does not provide food, nursing staff, or law enforcement. It was stated that DCA provides funding of hurricane shelters.

Residents are given eighteen hours notice prior to impact of a hurricane. This amount of time is believed to be enough to evacuate the area. However, due to choke points fifty-eight hours notice is necessary. Coastal communities are given notice first. It was stated by a member, at present the transportation departments can not even keep up with growth in the study area, thus, leaving little opportunity to plan for hurricane evacuation problems. It was also stated that canals add to the problem by allowing surges and flooding to move deeper inland.

Flowways and Hydrology

Chip Merriam, Director at the Fort Myers Service Center of the South Florida Water Management District (SFWMD), presented information on the surface water flowways of the study area. The floods of 1995 initiated studies in South Florida. The 1995 flood forced residents and businesses out of their homes and facilities for approximately twelve weeks. The SFWMD analyzed historical trends of similar events in the region.

For many years, it was recognized that there were three primary flowways in the region. From 1970 through 1996, this fact was used in the permitting process. However, a study in the

mid 1990s found that there were actually two primary flowways. It was later discovered that there are three flowways when the region is wet and two flowways when the region is dry. Elevation in this region is not conducive for moving water but storm events force the flow of surface water. Interstate 75 running north and south has created a barrier across flowways. Surface water must accumulate on the east side of I-75 in order to build enough force to move water through culverts and other water control structures. We should restore the freshwater flow to Estero Bay as opposed to the water being captured on the east side of I-75. Due to the flowways being diverted, the Imperial River receives greater flow while the Estero River has less flow than historically seen. There are models on flood areas and flowways.

One member asked whether the water table was rising or lowering. Mr. Merriam answered that the water table is falling in many areas particularly near the coast. Mr. Merriam stated that the Federal Emergency Management Agency (FEMA) has designated floodplains in Lee County by not complete in Collier County.

There was some discussion about future development. One member stated that as people build in floodplains it costs the public a lot of money. Mr. Merriam suggested that new development be built at higher elevations. Another member stated that more public dollars are being spent to fix the problems created by private land owners. Flooding is important as it pertains to environmental justice. It is important that the disadvantaged public is not harmed by others' gain.

Wildlife and Listed Species

Brad Hartman, Director of the Office of Environmental Services of the Florida Game and Fresh Water Fish Commission, presented a series of maps graphically depicting different data types. The first map presented was titled the Strategic Habitat Conservation Area (SCHA) for southwest Florida. There approximately ten habitat areas identified in the study area. To develop this map cover models were utilized. The map identifies areas of public lands that couldn't meet habitat needs. Mr. Hartman also presented a reported titled Closing the GAPS in Florida Wildlife Habitat Conservation System.

Mr. Hartman also presented maps of potential habitat for bears and panthers. The maps were titled Florida Black Bear: Potential Habitat and Florida Panther: Potential Habitat. Also, presented was a point data map titled Wading Bird Rookery, Bald Eagle, and Florida Scrub Jay Locations that displayed identified areas of nesting in three categories. This map and respective data could be used to determine the numbers of birds impacted by an alternative. A map titled Biodiversity Hot Spots identifies the areas of species overlap.

There was some concern with the data used to develop the GAPS report. Mr. Hartman stated that there were some problems particularly when applying models to small areas. However, he feels comfortable using habitat as an indicator. Someone asked whether public lands meet the needs of species diversity and if not does this mean we need to acquire more public

lands. Mr. Hartman replied that it was recommended in the GAPS report that there be incentives for private land owners to be stewards of wildlife through easements, however, he does not feel that the program is reliable at this point. It was stated that different agricultural activities have varying wildlife values.

In addition, the Fish and Wildlife Service provided maps displaying manatee mortality. This brought up the question of water quality which the Florida Department of Environmental Protection (DEP) will provide data on. There was also discussion of too much fresh water in the bays. Michael Simonik will describe the state of Naples Bay at a future meeting if appropriate.

Evaluation Factor Refinement

As stated previously, Tim Feather provided ADG members with evaluation factor refinement worksheets. These worksheets presented the factors by issue category displayed in Attachment B of the notes from meeting four. The worksheets are a series of tables that present the factor specialty groups with items necessary to complete the evaluation factor development: (1) measurement name, (2) measurement type, (3) data sources, (4) point of contact, and (5) factor specialty group recommendation. Before factor specialty groups refined their evaluation factors, Mr. Feather and Mr. Hall reviewed some examples using factors identified by factor specialty groups. It was expressed to the group to keep in mind the motto of this refinement activity: need to know versus nice to know.

After the examples presented by Mr. Feather and Mr. Hall, each factor specialty group utilized the worksheets to refine the previously identified evaluation factors. The results of this refinement activity are presented in Attachment C. The following sections present the discussions regarding evaluation factor refinement by issue category. One member of the ADG presented to the factor specialty groups written commentary on the factors as they have been developed to this point (end of the fourth meeting) which was considered by each of the factor specialty groups. This commentary is presented in Attachment D.

Property Rights

The factor specialty group removed reasonable expectations for use of land from their list of measurements. There was some discussion regarding the factor specialty group's measurements and assumptions.

Members of the ADG questioned how the factor specialty group would obtain and use the appraisal data recommended. The ADG also questioned whether data were available to use in GIS format. The factor specialty group will find this information for the fifth meeting. One member of the ADG stated that they had current property value overlays for GIS analysis. One

statement made was that the ADG does not have time to address this issue on a parcel by parcel basis but a general comparison of alternatives with respect to property values is more appropriate.

One member questioned why the factor specialty group only addressed private property rights and not public property rights. This factor specialty group suggested that the factor specialty group addressing public lands management/use address public property rights. It was argued that the issue category of public lands management/use was not intended to address property rights. The ADG agreed that the property rights factor specialty group also address public property rights.

The issue of environmental justice was reviewed by this factor specialty group and recommendations were made with respect to measurement. However, this group recommended that the factor specialty group addressing economic sustainability also address environmental justice. The ADG agreed to have this issue addressed by the recommended factor specialty group.

Ecosystem Function, Wildlife Habitat, and Listed Species

The factor specialty group removed affects (loss/modification) rare & unique plant communities from their list of measurements. However, they did add two new measurements: (1) wetlands of importance to critical wildlife and (2) affects on aquatic resources. Other measurements were modified by the factor specialty group. The factor specialty group identified twelve factors of which one was designated not essential for this effort. There was some discussion regarding the factor specialty group's measurements and assumptions.

A question was posed to the factor specialty group whether or not data existed to address these factors. The group stated that approximately one-third could be answered whereas the other two-thirds may never be addressed. The factor specialty group listed data sources for all twelve factors, however, over half did not have an associated date at which time data would be available to the ADG for evaluation purposes.

Regulatory Efficiency and Effectiveness

The factor specialty group identified three factors at the fourth meeting but narrowed it to two factors at the fifth meeting. The previously identified factor of permit review time was determined to be a goal of regulatory efficiency and effectiveness but not a true measure. However, it is measurable via other means. The factor specialty group stated that by identifying impact/mitigation and preserve areas this could improve the permit review time. The qualifier to this statement is that there should be a strategy, such as mitigation banks, readily available.

Local Land Use Policy

The factor specialty group identified five factors at the fourth meeting but narrowed it to two factors at the fifth meeting. Three previously identified factors were removed from the list: (1) number of conflicts with local land use plan and regulations, (2) feasibility of implementing alternative through general permit process, and (3) hurricane preparedness shelter availability. It was stated by the factor specialty group that the number of conflicts between alternatives and local land use plans (comprehensive plans) is not as significant as the significance of those conflicts. The group stated that the data are available to evaluate these conflicts.

Water Management

The factor specialty group identified seven factors that pertain to water management at the fourth meeting. The group further defined the factors at the fifth meeting. Much of the data to support the factors will be provided by South Florida Water Management District, Federal Emergency Management Agency, and the South Lee County Study.

A member questioned the use of capital costs (dollars) to measure the factor of infrastructure existence - stormwater utility - maintain and improve. The factor specialty group responded that when alternatives come down to whether or not to construct a storm ditch the cost will be a factor by which to evaluate alternatives. It was also suggested that the factors home construction to meet one-hundred year storm event and flood depth and duration were closely related if not the same. The factor specialty group stated that although they are closely related they are different in terms of evaluation. The primary difference is the notion of flooding caused by rain events versus flooding as a result of a hurricane.

Lastly, there were questions of availability of data necessary to be able to apply these factors to alternatives. The factor specialty group stated that the South Lee County Study should be available within two weeks of the fifth meeting. Three of the seven factors rely on the data presented in this study.

Water Quality

The factor specialty group identified five factors that pertain to water quality at the fourth meeting. The group further refined the factors at the fifth meeting. Much of the data to support the factors will be provided by or are available from the Florida Department of Environmental Protection (DEP).

A member asked whether or not the South Lee County study could be used to address water quality. It was stated that the South Lee County study addresses hydrology not water

quality. The Johnson model can be utilized to address the impacts of alternatives on water quality. The EPA has a list of watershed indicators that may apply to the issue of water quality. It was asked whether or not fresh water will be considered as a pollutant in some instances. The factor specialty group stated that this will be considered when addressing the impacts of alternatives on water quality.

The factor specialty group also stated that in terms of data this is an inopportune time for the ADG to request data as they pertain to water quality. There are a number of studies being completed to address water quality issues in the study area. John Hall is not encouraged that these factors will be applicable in the timeframe allowed the ADG. It was asked whether the factor specialty group could evaluate alternatives using the factors identified by applying a scale measurement (i.e., high impact, medium impact, and low impact) given the lack of data to support the measurement of the identified evaluation factors. The factor specialty group stated that they were willing to proceed in the process.

Economic Sustainability

The factor specialty group identified two factors at the fourth meeting. As previously stated, the factor specialty group addressing property rights recommended that environmental justice is a factor that addresses the issue category of economic sustainability. The previously identified factors of economic impact and consistency with economic development plan were combined into a single factor. Thus, the factor specialty group addressed two factors.

The group suggested using the United States Census to determine areas of low income as well as ethnic minorities. This information can be combined with the EPA Guidance Manual to address the issue of environmental justice. Given GIS capability, an overlay of low income areas can be compared to alternatives (i.e., where increased flooding may occur).

Wayne Daltry was identified as a source of information, models, and data as they pertain to the evaluation of economic impacts of alternatives. Bonnie Kranzer volunteered to bring a report written by DCA that addresses dollar values of Florida's east coast. DEP suggested that as air quality pollutants increase funding for roadways inversely decrease.

Mitigation

The factor specialty group identified two factors that address the issue of mitigation at the fourth meeting. The factors of this issue category are closely related to the factors that are used to address the issue category of avoidance of wetlands impacts. The number of acres, functionality, and position within the landscape are all important items to consider when addressing mitigation. The two factors identified address these items.

The factor specialty group suggested assigning a score to identify wetland function value. It was stated that mitigation banking on public lands that are slated for restoration is a controversial topic. It was also stated that the private sector has a poor track record of mitigation on public lands.

Restoration/ Retrofit

At the fourth meeting, the factor specialty group identified seven factors that address the issue category of restoration/retrofit. Historical data and information are important items of information when addressing this issue. The factor specialty group is relying on other groups to identify a measurement type for the evaluation factors of index of regional functionality and biodiversity index for flora and fauna.

The Conservancy completed an study of Naples Bay that addresses restoration. This study will be provided to the ADG. A baseline study conducted by NRCS for south Golden Gate Estates is near completion.

Public Lands Management

The factor specialty group identified three factors at the fourth meeting but narrowed it to two factors at the fifth meeting. The previously identified factor of funding was determined to be an overall issue. One factor was originally titled condition of resources on public lands, however, this was changed at the fifth meeting to degradation or improvement of resources on public lands. Degradation could be loss of cover for wildlife whereas an improvement could be a private buffer outside public lands.

There was some discussion concerning the removal of funding as a factor. Some members stressed that funding is an important factor for those geographical areas of alternatives targeted for acquisition by public agencies. It may be that the public agency does not have the money to either purchase or manage the property. However, the factor specialty group did suggest that these areas could be lands for potential easements. Given this concern, the factor specialty group agreed to address funding as an overall issue of public lands management/use.

Avoidance of Wetlands Impacts

The factor specialty group identified two factors that address the issue of avoidance of wetlands impacts at the fourth meeting. The factors of this issue category are closely related to the factors that are used to address the issue category of mitigation. The factor of wetland

functions impacted had five components to review: (1) vegetation cover, (2) wildlife, (3) buffer, (4) hydrology, and (5) water quality.

One question posed by a member was whether or not this factor specialty group addressed urban sprawl. It was stated that the factor specialty groups addressing local land use policy and cumulative/secondary impacts addressed the idea of urban sprawl. The DEP stated previously that they will provide the ADG with water quality data.

Cumulative and Secondary Impacts

The factor specialty group identified nine factors that address the issue of cumulative and secondary impacts at the fourth meeting. However, the factor specialty group did refine several factors as well as add two new factors. Thus, the group identified and defined eleven factors.

The ADG questioned the need for crime and infant mortality data. The factor specialty group stated that these are indicators of environmental health and quality of life. It was stated that many of the factors developed to address the issue of cumulative/secondary impacts were social in nature. However, several were natural resource oriented and it was further assumed that a number of cumulative/secondary impact factors would be discussed and addressed in their respective factor specialty groups. It was stated that the EPA has an index of watershed indicators that may be useful in the measurement of cumulative impacts. It was stated that this index is not a predictive model. However, the index can be applied to an alternative to determine its potential cumulative impacts. This index was also referred to under the issue category of water quality. One member stated that when reviewing the factors he/she was struggling with the notion of carrying capacity for the study area.

Geographic Information System (GIS) Needs

In recognition of the role of GIS for evaluation of ADG alternatives, each factor specialty group was asked to report their GIS needs to the facilitation team by issue category and factor. Not all issue categories and factors will require GIS support. For each issue category, the factor specialty groups identified a point of contact. The facilitation team will take these GIS needs and apply them in a GIS application prior to the sixth ADG meeting. Attachment E presents the identified GIS needs by issue category.

Meeting Five Summary

Mr. Feather proposed a format of the summary presentation to the ADG similar to that of the previous meetings focused around the following topics.

- Activities (who, what, where, and why)
- Accomplishments
- Next steps
- Next meeting information

Mr. Feather offered the accomplishment topics of (1) presentations of data and information, (2) addressed motion of environmental justice, (3) refinement of evaluation factors, and (4) identified GIS needs. The summary presentation is provided in Attachment F.

Next Meeting

The sixth meeting will be held at The Conservancy auditorium in Naples on July 9 and 10, 1998. Topics of the meeting will be the presentation of GIS products, presentation of water quality trends by DEP, remarks concerning the NEPA process, evaluation of hub alternatives, refinement of hub alternatives, and review evaluation factors.

ATTACHMENT A

ALTERNATIVES DEVELOPMENT GROUP MEETING #5 ATTENDEES

LIST OF ATTENDEES
ALTERNATIVES DEVELOPMENT GROUP
MEETING #5, JUNE 18-JUNE 19, 1998

Members Represented:

Robert S. Baker
Council of Civic Associations

Rick Barber and Dan Brundage (alternate)
Chief Executive Officer
Agnoli, Barber & Brundage, Inc.

Tom Beck
Department of Community Affairs

John Cassani
Lee County Hyacinth Control District

Wayne Daltrey and David Burr (alternate)
Executive Director
SW FL Regional Planning Council

Claudia Davenport
Big Cypress Basin Board

David Douglas
David Douglas Assoc., N Ft. Myers Chamber of Commerce

Kim Dryden
U.S. Fish and Wildlife Service

Tim Durham
Wilson, Miller, Barton & Peek, Inc.

Clara Anne Graham-Elliott and Gary Lee Beardsley (alternate)
League of Women Voters of Lee County

William Jolly (alternate for John Folks)
Department of Agriculture and Consumer Services

Edward Griffith
Director of Planning
WCI Communities

David Guggenheim
The Conservancy of Southwest FL

Karen Johnson (alternate for Bill Hammond)
South Florida Water Management District

Bradley J. Hartman
Director, Office of Environmental Services
Florida Game and Fresh Water Fish Commission
Peggie Highsmith and Gary Maier (alternate)
Department of Environmental Protection

Ronald Haggan and Brian Hayden (alternate)

Wallace Kain
Mayor
City of Sanibel

Earl Kegg and Michael Reitmann (alternate)
Collier County Representative

Richard Kohn Real Estate Consultants

Bonnie Kowczak Governor's Commission for Sustainable South Florida

Jeff Rhodes (alternate for Al Lucas)
U.S. Environmental Protection Agency

Chip Merriam
Director, Fort Myers Service Center
South Florida Water Management District
Katherine English (alternate for Neale Montgomery)
Paves, Garner, Haverfield, Dalton, Harrison & Jensen

Bob Mulder Director, Collier County Planning

Paul O'Connor
Planning Division Director
Lee County

Robert H. Roth, P.E. and Mark Morton (alternate)
Barron Collier Partnership/Silver Strand Division

Fran Stallings

Mark P. Strain
Gulf Bay Communities, Inc.

Kris Thoenke and Jan Goldman-Carter (alternate)
Director, Everglades Project
National Wildlife Federation

Matthew D. Uhle and Mike Roeder (alternate)
Economic Dev. Coalition of Lee Co.

Whit Ward
Collier Building Industry Association, Inc.

John R. Hall
Department of the Army, Jacksonville District Corps of Engineers, Regulatory
Division

Observers:

Michael Simonik

Nancy Payne

Jim Beeler

W.T. Olds, Jr. Fish & Wildlife Service

Jon Ingold Florida DEP

Tim Jones

Lee County

Cynthia Trice Pegasus Foundation

Steve Sullivan

Clarence B. B. / SFWMD

Malcolm Holmes (for Fran Stallings)

Facilitation Team:

Timothy P. Fogarty Manager
Planning and Management Consultants, Ltd.

Dale Brown Facilitator
Planning and Management Consultants, Ltd.

Michael B. B. Recorder
Planning and Management Consultants, Ltd.

ATTACHMENT B

REFERENCES

Storm Surge Atlas - Lee & Collier Counties

~~Florida Department of Natural Resources, Division of Wildlife Conservation, 1111 G Street, NW, Tallahassee, FL 32304-3000~~
~~Florida Department of Natural Resources, Division of Wildlife Conservation, 1111 G Street, NW, Tallahassee, FL 32304-3000~~
Closing the GAPS in Florida Wildlife (Habitat Conservation System, 1994)
Southwest Florida District Wildlife Quality Improvement Plan (1995) Technical Appendix

ATTACHMENT C

EVALUATION FACTOR WORKSHEETS

ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
A. Property Rights				
A1. Fair market value	\$ & timing of ownership	Prop. Appraisal Stds.*	Mark Morton Mtg. #6	Yes
A2. Reasonable expectations for use of land and return on investment	\$ and timing of ownership	Future land use designation per comp. plan; LDC; other vested approvals*	Have them, except LDC	Yes
A3. Vested rights	Permits and JDs	Fed, WMD, Collier and Lee Agencies* "Interim final guidance for incorporating environmental justice concerns" as referenced (USEPA)	Paul O'Connor and Bob Roth Kate English Mtg. #6	Yes Yes
¹ A4. Environmental Justice	1. "Effect" minority and/or low income groups on the project			

* See meeting four notes: Attachment B.

¹See "economic sustainability."

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
B. Ecosystem Function, Wildlife Habitat, and Listed Species				
B1. Affects on GFC SHCAs habitat planning objectives	GIS Area/ Location	GAPS database	GFC 6/98	Essential
B2. Affects on FWS Type 1 & 2 panther habitat	GIS Area/ Location	FL Panther Interagency Committee	FWS 6/98	Essential
B3. Affects on RPC natural resource goals	GIS Area/ Location	SWFRPC	SWFRPC	Not essential
B4. Affects on FWS Recovery Plans & FL Panther Habitat Cons. Plan	Consistent --- Inconsistent	FWS - Multispecies Plan Volume I FL Panther Interagency	FWS 6/98	Essential
B5. Affects occurrences of listed species	Proximity (yes/no)	Habitat Mgt. Guidelines Scientific Wildlife Observation	GFC, FWS, etc.	Essential
B6. Affects occurrences of rookeries	Proximity Within 100 Miles Acres	GAPS Literature	GFC, etc.	Essential

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
B7. Affects loss of native plant communities (common and rare)	GIS Area/ Location Type	GAPS	GFC 6/98	Essential
B8. Affects fragmentation & connectivity of plant and animal habitats	GIS	GAPS, Scientific Literature, RPC Map	GFC, etc.	Essential
B9. Loss of seasonal wetlands	GIS Acres/ Location	GAPS, WMD land cover, NWI maps	GFC, WMD, FWS	Essential
B10. Affects integrity of flowways (rivers, sloughs, strands)	GIS Affect/ Not Affect	USGS, GAPS, WMD	WMD/USGS	Essential
B11. Wetlands of importance to critical wildlife	GIS Yes/No	EPA Map	GFC 6/98	Essential
B12. Affects on aquatic resources	GIS-DEP	FMR1, FDEP Aq Pr M Pass, NEP, NOAA?, NMF?	DEP	Essential

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
C. Regulatory Efficiency and Effectiveness				
C1. Permit review time and level of effort ²			---	Subsumed in C2
C2. Pre-identified impact/mitigation and preserve areas ³	Area	<ul style="list-style-type: none"> ⓈPre-identified acreage Ⓢ ⓈEfficiency, effectiveness 	ADG	
C3. FWS/GFC public general concerns addressed ⁴	Area	Degree of overlap of alternative with SHCA	FWS/GFC	

⁶Note: Shared Sources for regulatory agencies (opportunities for leveraging).

²4 "C₁s": certainty, consistency, clarity and celerity. Greater green: greater conservation effectiveness. Greater red: greater development efficiency.

³Qualifier: readily-available "strategy" (e.g., mitigation bank, TDR, etc.)

⁴May already be considered by ecosystem functions group.

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
D. Local Land Use Policy				
D1. Significance of conflicts with local land use plans and regulations	Acreage; density/ intensity	Local land use plan and supporting data and analyses	We have them	Yes
D2. Hurricane preparedness evacuation routes	Evacuation time	Regional and local emergency management plans	Wayne Daltry when act is determined	Yes

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
E. Cumulative/Secondary Impacts				
E1. Impacts on infant mortality	Logistic models	Regional Planning Counsel (RPC)	RPC Wayne Daltry	Essential
E2. Impacts on road needs	Logistic models	(MPOs)	RPC	Essential
E3. Impacts on air pollution loading	Logistic models/ DEP reports	DEP/RPC	DEP	Essential
E4. Impacts on water pollution loading	TB NEP land use pollution loading model	Tampa Bay NEP/DEP	NEP/DEP 12/98	Available 12/98 use in EIS analysis
E5. Impacts on crime rates	Logistic models	(RPC)	RPC Wayne Daltry	Essential
E6. Impacts on hurricane vulnerability	Logistic models RPC reports	RPC DCA	RPC Wayne Daltry	Essential
E7. EPA Index of watershed indicators	EPA model	EPA/DEP	COE has	Essential ?

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
E8. Impacts to wetlands only	HGM model WRAP	COE (HGM) WMD	COE has	Essential
E9. Spawning Potential Ratio (SPR)/Fish landings	Model data	FEMRL	NWF Kris Thoenke	Essential ?
E10. Impacts to hydrology	HGM	COE	COE	Essential ?
E11. Amount of lands in public and private ownership in protected status	GIS	RPC, Property appraiser	RPC County Dept County Dept	Essential

* Note: Further monitoring of the chosen alternative re cumulative and secondary impacts.

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
F. Avoidance of Wetland Impacts				
F1. Number of acres of wetlands impacted	Area	Overlay alternative with NWI layer Isolated wetlands ⁵	USACE	
F2. Wetland functions impacted	Index	Wrap/HGM/derived layers ⁶	Misc. USACE ?	

* Note: Locational component (per Kim, Jim)

⁵ Acreage and count must be considered. Derive (median) consider wildlife value (woodstorks) [B12?]

⁶ 5 components: 1) Vegetative Cover - (derive from fluccs); 2) Wildlife - (biodiversity hotspots - derive measure based on ecosystem function [B12] ... group); 3) Buffer - (adjacent habitat support) - proximity factor, (proximity to fluccs core(s) indicating "developed") vs. undisturbed [public lands - Jim]; 4) Hydrology - proximity to canals; soils map - indicators of water table; 5) Water Quality - HGM - loading of dissolved and suspended materials; adjacent land use; runoff/treatment.

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
G. Water Management				
G1. Infrastructure existence - stormwater utility - maintain and improve	\$ capital costs and maint.	SFWMD (SLC study) BCB ities	Chip Merriam	S. Lee Co. Study (10 days)
G2. Home damage during storm events - level of flood protection	Number of homes effected	FEMA	FEMA	O.K.
G3. Home construction to meet 100 year storm event	FEMA plates	RPC, SFWMD (SLC study), FEMA	Wayne Daltry, Chip Merriam, FEMA	
G4. Flood depth and duration - increase ? Hurricane evacuation?	Decrease in depth of flooding and duration	FEMA, SFWMD (SLC Study), Counties, BCB	Chip Merriam	
G5. Historic flow patterns - timing, amount, location, improve and maintain	Improve or maintain	SFWMD (SLC Study), estuary data	Chip Merriam	S. Lee Co. Study

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
G6. Adequate water storage - balance of consumption with hydroperiods	Maintain	TBD, County Wellfield studies	SFWMD	S. Lee Co. Study?
G7. Groundwater data floors and ceilings - aquifer zoning	Modeling	SFWMD, USGS	Chip Merriam	

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
H. Water Quality				
H1. Establish point & nonpoint standards - PLRGS improve and maintain (use established DEP)	Land uses - Johnson model ⁷	Johnson model, land use maps; DEP stds	Jeff Rhodes DEP Jolly	Each alternative contributes to BMP
H2. Aquatic community impacts/fishing, recreation, shellfish, grassbeds		DEP stds	DEP	Each alternative contributes to BMP
H3. Use established BMPs	Yes or No	IFAS - AGR. DEP stds in water	DEP	Each alternative contributes to BMP
H4. Natural/passive nonstructural methods - use	Amount of natural flow	S. Lee Co. Study DEP stds	Chip DEP	Alternatives account for natural not structural improvements
H5. Public health effects - beach closures, fish and shellfish restrictions	Swimable and edible	DEP stds Health Department	DEP HRS	

* Note: Each alternative should maintain or improve existing conditions loadings.

⁷Use to see increase or decrease in loadings.

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
I. Economic Sustainability				
I1. Economic impact and consistency with economic development plan	Professional Analysis	Consultants utilizing economic impact analysis techniques, US Census, state, regional and local economic elements and plans	Wayne Daltry	
I2. Environmental Justice	Release sources: #, frequency, history, concentration	EPA Guidance US Census	Gary Maier	Yes

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
J. Mitigation				
J1. Total acres provided	Area	Land use (fluccs) (same as F1); public-owned preserves		J1a. Total green acres minus public- owned J1b. Red acres presume ⁸
J2. Total wetland-function acres provided	"Units"	Functional units from F2 ⁹ ; Public owned preserves; Bullfinch expectations on		J2a. Total "lift" in green J2b. Total "lift" in green minus public J2c. Total "lift" in green minus public J2d. Total "lift" in green minus public

⁸Presume no acres in red saved...need to adjust some rough manner.

⁹Landscape position important in assessing mitigation. Considered via link with ecosystem group in development of F2 measurement.

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
K. Restoration/Retrofit				
K1. Natural function maintained in natural systems	Historical flowways maintained - recreated hydric soils study	S. Lee Co. Study GPB v. Bates study	J. Rippe C. Tears	Alternatives create natural functions through flowways and outfalls
K2. Exotics control: % and size of parcels treated and restored	Acreage and costs	Exotic Pest Plant Council	Bill Jolly	Alternatives must consider control of exotics
K3. Percent of residents using self-supplied infrastructure	# of wells and # of septic tanks	DEP HCS local government	DEP HCS local government	Alternatives to require reduction in wells and septic tanks
K4. Percent ag using BMPs	IFAS	IFAS	IFAS	
K5. Index of regional functionality (e.g. ws, wq)		Baseline wildlife and wetland data; water quality data		
K6. Biodiversity index for flora and fauna				

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
K7. Enhance quality of life (QOL)	Matrix of QOL indices	State, regional, county-statistics, hydro, socio-econ	Wayne Daltry, Chip Merriam, DEP, EPA, Audobon	Alternatives project overall increases or decrease in range; quality of the indices

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ADG EVALUATION FACTOR REFINEMENT ACTIVITY

Measurement Name	Msmt. Type	Data Source	ADG POC/Date (Who will bring data & when)	Recommendation for ADG Use/Notes
L. Public Lands Management/Use				
L1. Compatibility with land management plan	Yes/No	Published land management plans	7/98 Land managers; FWS/DOF; GFC/WMD/ DEP	Need general check land management activities Essential
L2. Degradation or improvement of resources on public lands	GIS	WMD	WMD ?	Land cover or land use Essential
¹⁰ L3. Funding				

¹⁰FLAG! - Overall Issue

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ATTACHMENT D

EVALUATION FACTORS: CONCERNS AND REQUESTED MODIFICATIONS

ATTACHMENT E

GIS SUPPORT

Issue Category and Contact	GIS Information
Ecosystem Function, Wildlife Habitat, and Listed Species	Panther strategic habitat conservation area -acres of impact
Contact: Corps has this information	<ul style="list-style-type: none"> type 1 habitat type 2 habitat
	All strategic habitat conservation area - acres of impact
	Development acres within 1 mile
	<ul style="list-style-type: none"> game and fish commission eagle occurrence game and fish commission scrub jay game and fish commission wading bird location game and fish commission wading bird forage game and fish commission "native" vegetation -acres lost game and fish commission "rare" vegetation - acres lost (scrub, coastal strand)
	EPA wetland/wildlife map
Regulatory Efficiency and Effectiveness	Number of acres alternative map not colored in by ADG
Contact: David Guggenheim	
Cumulative and Secondary Impacts	Public lands map
Contact: Jim Beaver	Private conservation lands map
	Conservation easement/deed restricted lands map
	GIS maps for alts.: totals of each land use type by location
Avoidance of Wetland Impacts	Overlay Nation Wetlands Inventory over each alternative
Contact: David Guggenheim	<ul style="list-style-type: none"> number of acres by wetland category in red, green, etc.
	Vegetative cover (derive from FLUCCS)
	Wildlife (biodiversity hotspots)
	Buffer (adjacent habitat support proximity to FLUCCS codes)
	Hydrology
	Water Quality
	<ul style="list-style-type: none"> HGM - loading of dissolved and suspended materials adjacent land use Runoff/treatment
Water Management	Existing flowways (natural and manmade)
Contact: Rick Barber, Dan Brundage	Historic flowways (natural and manmade)
	Development order areas (county and state)
	Topographical map
	1995 flood limits
	Aquifer mapping with well fields
	Wetlands (for flowways)
	Water Management Permitted areas
Water Quality	Point sources and types -STP etc
Contact: Rick Barber, Dan Brundage	Monitoring stations
	Areas of impaired use
	<ul style="list-style-type: none"> fish consumption advisories red tide

	<ul style="list-style-type: none"> beach closures
	Public and private utility service areas - water and sewer
	Septic Tank / Private Well
	Pervious versus impervious areas - via infared.
Restoration / Retrofit	Exotic vegetation
Contact: Dan Brundage and Rick Barber	Public lands
	Permitted versus un-permitted agricultural areas
	Strategic wildlife habitat areas
Public Lands Management/Use	Land cover data
Contact: Chip Merriam (WMD) or GFC	Public lands map
Mitigation	Existing
Contact: Bob Barron	<ul style="list-style-type: none"> Run #1: total acres of “wetlands” FLUCCS polygons excluding those that fall within public preserves (note 1)
	<ul style="list-style-type: none"> Note 1: would like to exclude wetlands surrounded by / included within existing development: if possible, exclude from acreage report those FLUCCS included within development FLUCCS (adjacent FLUCCS not equal to wetland)
	<ul style="list-style-type: none"> Run # 2: total “units” of <Function> for all wetland FLUCC
	<ul style="list-style-type: none"> Run # 3: total “units” of <Function> for all wetland FLUCC polygons excluding those polygons that fall within public preserves
	Plan 2020
	<ul style="list-style-type: none"> Run # 4: total acres of “wetland” FLUCCS polygons excluding those that fall within public preserves and excluding those polygons that fall within areas shown on the 2020 Plan to be wetland (urban, suburban, etc)..(Note 1)
	<ul style="list-style-type: none"> Run # 5. Total “units” of <Function> for those wetland acreages footprint of Run # 4.
	<ul style="list-style-type: none"> Run # 6: total units of <function> for those wetland acreages of Run # 4 plus those polygons that fall within public preserves
Local Land Use / Property Rights /	<ul style="list-style-type: none"> Property appraiser, Metro Scan, and other
Economic Sustainability	<ul style="list-style-type: none"> Current Land Use (O’Connor & Mulhere)
Contact: Mark Morton	<ul style="list-style-type: none"> Permitted and zoned properties (O’Connor & Mulhere)
	<ul style="list-style-type: none"> SFWMD Permits (Chip Merriam)
	<ul style="list-style-type: none"> Hurricane routes (RPC, Wayne Daltry)
	<ul style="list-style-type: none"> County Future Land Use Maps (O’Connor & Mulhere)

ATTACHMENT F

SUMMARY PRESENTATION MEETING No. 5